AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently amended) A telecommunication network, comprising:

a first subnetwork;

a plurality of nodes in the first subnetwork;

a plurality of physically separate intersubnetwork connections for connection of the first subnetwork to a second subnetwork, each one of the plurality of physically separate intersubnetwork connections having a first subnetwork side and second subnetwork side;

a plurality of inverse multiplexers, wherein each one of the plurality of inverse multiplexers has an input connected with a respective node of the plurality of nodes, each one of the plurality of inverse multiplexers being arranged for receiving an original data signal transmitted from the respective node for transmission to the second subnetwork and inverse multiplexing the original data signal to a plurality of inverse multiplex data signals for transmitting the original data signal to the second subnetwork via the plurality of physically separate intersubnetwork connections in an inverse-multiplexed manner; and

a plurality of system multiplexers, each one of the plurality of system multiplexers being connected between outputs of a plurality of the inverse multiplexers and at least one of the plurality of physically separate intersubnetwork connections, wherein each one of the plurality of system multiplexers is connected with a different one of the plurality of physically separate intersubnetwork connections, and the plurality of system multiplexers are arranged for transmitting the inverse multiplex data signals to the second subnetwork, wherein the plurality of inverse multiplex data signals from a same one of the plurality of inverse multiplexers are each transmitted over a different one of the plurality of physically separate intersubnetwork connections; wherein each one of the plurality of system multiplexers is arranged to receive and transmit inverse multiplex data signals from each of the plurality of inverse multiplexers.

2. (Currently amended) A telecommunication network, comprising:

a first subnetwork;

a plurality of nodes in the first subnetwork;

a plurality of physically separate intersubnetwork connections for connection of the first subnetwork with a second subnetwork, each one of the plurality of physically separate intersubnetwork connections having a first subnetwork side and second subnetwork side;

a plurality of inverse demultiplexers, wherein each one of the plurality of inverse demultiplexers has an output connected with a respective node of the plurality of nodes, each one of the plurality of inverse demultiplexers being arranged for receiving a plurality of inverse multiplex data signals, recovering an original signal, transmitted from the second subnetwork, from the plurality of inverse multiplex data signals and presenting the recovered original signal to the respective node of the receiving one of the plurality of inverse demultiplexers; and

a plurality of system demultiplexers, each one of the plurality of system demultiplexers being connected between an input of each one of the plurality of inverse demultiplexers and at least one of the physically separate intersubnetwork connections, wherein each one of the plurality of system demultiplexers is connected with a different one of the plurality of physically separate intersubnetwork connections, and the plurality of system demultiplexers are arranged for receiving the plurality of inverse multiplex data signals from the second subnetwork, wherein each one of the plurality of inverse multiplex data signals for a same one of the plurality of inverse demultiplexers are each received over a different one of the plurality of physically separate intersubnetwork connections; wherein each one of the plurality of system demultiplexers has a plurality of connections to transmit inverse multiplex data signals to each one of the plurality of inverse demultiplexers.

3. (Currently amended) A telecommunication network according to claim 1, wherein each one of the plurality of physically separate intersubnetwork connections comprises a different local loop telephone ~~connection~~connection.

4. (Original) A telecommunication network according to claim 3, wherein at least two nodes on the first subnetwork side are located in different buildings.

5. (Previously presented) A telecommunication network according to claim 1, comprising:

routing units, each routing unit comprising a combination of one of the plurality of inverse multiplexers and one of the plurality of system multiplexers, wherein each routing unit, for interchanging the inverse multiplex data signals with the nodes, is, without intervention of one of the other routing units, connected with a respective node, and via at least one of the routing units with other nodes than the respective node.

6. (Previously presented) A telecommunication network according to claim 5, wherein at least one of the routing units is connected via a wireless transmission connection for communication with at least one of the other routing units for interchanging the inverse multiplex data signals with the other nodes than the respective node.

7. (Currently amended) A telecommunication network according to claim 1, wherein at least one of the ~~at least two~~plurality of physically separate intersubnetwork connections is a broadband connection.

8. (Original) A telecommunication network according to claim 7, wherein at least one of the broadband connections has a data throughput speed between 0.5 and 2.0 Mbps in the direction from the second subnetwork to the first subnetwork.

9. (Currently amended) A telecommunication network according to claim 1, wherein the number of physically separate intersubnetwork connections is smaller than the number of nodes connectable with the connecting system in the first subnetwork.

10. (Currently amended) A telecommunication network according to claim 1, wherein the number of physically separate intersubnetwork connections is equal to the number of end nodes in the first subnetwork connectable with the second subnetwork via the intersubnetwork connections.

11. (Currently amended) A telecommunication network according to claim 1, wherein at least one of the inverse multiplexers is arranged for distributing the inverse multiplex data signals over the physically separate intersubnetwork connections connected with the inverse multiplexer according to a predetermined distribution criterion.

12. (Original) A telecommunication network according to claim 11, wherein the inverse multiplexer is arranged for transmitting an amount of inverse multiplex data signals over each of the physically separate intersubnetwork connections in proportion with the bandwidth of the respective intersubnetwork connection.

13. (Currently amended) A telecommunication network according to claim 11, wherein the inverse multiplexer is arranged for transmitting an amount of inverse multiplex data signals over each of the physically separate intersubnetwork connections in proportion with the number of intersubnetwork connections.

14. (Currently amended) A telecommunication network according to claim 1, wherein the second subnetwork comprises ~~a shared~~an inverse demultiplexer and/or inverse multiplexer, shared by a set of nodes, for inverse demultiplexing and/or inverse multiplexing original data from and/or for the ~~combined~~set of nodes.

15. (Previously presented) A telecommunication network according to claim 1, wherein the second subnetwork comprises a plurality of inverse demultiplexers and/or inverse multiplexers, each for inverse demultiplexing and/or inverse multiplexing of original data from and/or for a respective node from the first subnetwork.

Claims 16-26 (Canceled).

27. (Currently amended) A telecommunication network according to claim 2, wherein each one of the plurality of physically separate intersubnetwork connections comprises a different local loop telephone ~~connection~~connection.

28. (Currently amended) A telecommunication network according to claim 7, wherein at least one of the ~~at least two~~plurality of physically separate intersubnetwork connections is an ADSL connection.

29. (New) A telecommunication network, comprising:

a first subnetwork;

a plurality of nodes in the first subnetwork;

a plurality of physically separate intersubnetwork connections for connection of the first subnetwork to a second subnetwork, each one of the plurality of physically separate intersubnetwork connections having a first subnetwork side and second subnetwork side;

a plurality of inverse multiplexers, wherein each one of the plurality of inverse multiplexers has an input connected with a respective node of the plurality of nodes, each one of the plurality of inverse multiplexers being arranged for receiving an original data signal transmitted from the respective node for transmission to the second subnetwork and inverse multiplexing the original data signal to a plurality of inverse multiplex data signals for transmitting the original data signal to the second subnetwork via the plurality of physically separate intersubnetwork connections in an inverse-multiplexed manner; and

a plurality of system multiplexers, each one of the plurality of system multiplexers being connected between outputs of a plurality of the inverse multiplexers and at least one of the plurality of physically separate intersubnetwork connections, wherein each one of the plurality of system multiplexers is connected with a different one of the plurality of physically separate intersubnetwork connections, and the plurality of system multiplexers are arranged for transmitting the inverse multiplex data signals to the second subnetwork, wherein the plurality of inverse multiplex data signals from a same one of the plurality of inverse multiplexers are each transmitted over a different one of the plurality of physically separate intersubnetwork connections; wherein each one of the plurality of system multiplexers is arranged to receive and transmit inverse multiplex data signals from each of the plurality of inverse multiplexers;

a plurality of inverse demultiplexers, wherein each one of the plurality of inverse demultiplexers

has an output connected with a respective node of the plurality of nodes, each one of the plurality of inverse demultiplexers being arranged for receiving a plurality of inverse multiplex data signals, recovering an original signal, transmitted from the second subnetwork, from the plurality of inverse multiplex data signals and presenting the recovered original signal to the respective node of the receiving one of the plurality of inverse demultiplexers; and

a plurality of system demultiplexers, each one of the plurality of system demultiplexers being connected between an input of each one of the plurality of inverse demultiplexers and at least one of the physically separate intersubnetwork connections, wherein each one of the plurality of system demultiplexers is connected with a different one of the plurality of physically separate intersubnetwork connections, and the plurality of system demultiplexers are arranged for receiving the plurality of inverse multiplex data signals from the second subnetwork, wherein each one of the plurality of inverse multiplex data signals for a same one of the plurality of inverse demultiplexers are each received over a different one of the plurality of physically separate intersubnetwork connections; wherein each one of the plurality of system demultiplexers has a plurality of connections to transmit inverse multiplex data signals to each one of the plurality of inverse demultiplexers.

30. (New) A telecommunication network, comprising:

a first subnetwork including a plurality of nodes;

a second subnetwork including a plurality of nodes;

a plurality of physically separate intersubnetwork connections for connection of the first subnetwork to the second subnetwork, each one of the plurality of physically separate intersubnetwork connections having a first subnetwork side and second subnetwork side;

wherein the first subnetwork comprises a plurality of inverse multiplexers, wherein each one of the plurality of inverse multiplexers has an input connected with a respective node of the plurality of nodes of the first subnetwork, each one of the plurality of inverse multiplexers being arranged for receiving an original data signal transmitted from the respective node for transmission to the second subnetwork and inverse multiplexing the original data signal to a plurality of inverse multiplex data signals for transmitting the original data signal to the second subnetwork via the plurality of physically separate intersubnetwork connections in an inverse-multiplexed manner;

wherein the first subnetwork comprises a plurality of system multiplexers, each one of the plurality of system multiplexers being connected between outputs of a plurality of the inverse multiplexers and at least one of the plurality of physically separate intersubnetwork connections, wherein each one of the plurality of system multiplexers is connected with a different one of the plurality of physically separate intersubnetwork connections, and the plurality of system multiplexers are arranged for transmitting the inverse multiplex data signals to the second subnetwork, wherein the plurality of inverse multiplex data signals from a same one of the plurality of inverse multiplexers are each transmitted over a different one of the plurality of physically separate intersubnetwork connections, wherein each one of the plurality of system multiplexers is arranged to receive and transmit inverse multiplex data signals from each of the plurality of inverse multiplexers;

wherein the second subnetwork comprises a plurality of inverse demultiplexers, wherein each one of the plurality of inverse demultiplexers has an output connected with a respective node of the plurality of nodes of the second subnetwork, each one of the plurality of inverse demultiplexers being

arranged for receiving a plurality of inverse multiplex data signals, recovering an original signal, transmitted from the second subnetwork, from the plurality of inverse multiplex data signals and presenting the recovered original signal to the respective node of the receiving one of the plurality of inverse demultiplexers; and

wherein the second subnetwork comprises a plurality of system demultiplexers, each one of the plurality of system demultiplexers being connected between an input of each one of the plurality of inverse demultiplexers and at least one of the physically separate intersubnetwork connections, wherein each one of the plurality of system demultiplexers is connected with a different one of the plurality of physically separate intersubnetwork connections, and the plurality of system demultiplexers are arranged for receiving the plurality of inverse multiplex data signals from the second subnetwork, wherein each one of the plurality of inverse multiplex data signals for a same one of the plurality of inverse demultiplexers are each received over a different one of the plurality of physically separate intersubnetwork connections, wherein each one of the plurality of system demultiplexers has a plurality of connections to transmit inverse multiplex data signals to each one of the plurality of inverse demultiplexers.